

nave by stone arches. The cost of the whole, including the walls for inclosing the churchyard, and approaches, &c. will be about 1,950l. The architect is Mr. Thomas Pennon, of Oswestry, and the contractor is Mr. Ebenezer Thomas, of Menai Bridge.

STEAM ENGINEERING.

AMERICA V. THE "BRITANNICUS."

BEING much struck by certain intimations of American progress in marine steam engineering, given in a letter by the present proprietor of the *New York Sun*, inserted in that paper on 3rd September last, and in which it was announced that the last fast and extra fast boats of the Cunard line were indebted to American improvements for their go-a-head superiority; being moreover, as we confess, a little jealous of our own acquisitions, even while proud of brother Jonathan's accomplishments; and desirous, therefore, that our engineers should look to their laurels; we quoted that portion of the *New York Sun's* letter in which such results of hardly ten years' American attention to ocean navigation were announced. A correspondent, "Britannicus," promptly responded to the announcement, contradicting it in toto, and telling us very plainly that—

"By giving currency, as you have done on this and other recent occasions, without comment, to the overweening estimates which the Americans form of their own superiority, you appear to me, Mr. Editor, to do much towards weakening the well-founded confidence which has hitherto been entertained in the perfection of British machinery, thereby injuring British interests, particularly with reference to the demands for engines from foreigners."

For "Britannicus's" statement of the facts of the case, as well as for the previous allegations of the *New York Sun* proprietor, we must refer our readers to *THE BUILDER* itself. Our present purpose is to state, that the truth of our correspondent's facts is, in turn, denied, and a counter statement made, in a long article on the subject, in the *New York Sun*, of 18th ult. in which the whole matter is entered into *ad longam*, and in which, after requiring the proprietor's first statement, the editor goes on to say—

"This portion of the letter attracted much attention in England, being copied into the journals, and commented upon by the editors or correspondents. In the London *Builder* only was its accuracy questioned, and there not by its editor, but by a very indiscreet correspondent—as the sequel will show. As the matter is one of more than ordinary importance, we republish the letter in *THE BUILDER*, that its wilful falsities may be the more apparent when placed in contrast with the truth."

Then follows "Britannicus's" letter to ourselves.

"This letter," continues the editor, "was copied extensively into the English journals, as an anchor of hope; and for effect, throughout the continent of Europe. It can easily be seen how anxiously Englishmen desired the impression to prevail that the Americans were copyists; and that for the signal triumphs of their ocean steamers during the summer of 1851, they were indebted to English genius, skill, and generous favour. The letter of 'Britannicus' met the eye of James Brown, Esq. (President of the Collins line) in the columns of *Galignani's Messenger*, of Paris, and he brought it to the notice of Stillman, Allen, and Co. the builders of the engines for the Collins steamers.

Their reply, which we now subjoin, furnishes the most satisfactory confirmation of every word in our letter, and an overwhelming refutation of the sweeping misstatements of 'Britannicus.' In place of any agent or member of the firm of S. A. & Co. ever having visited 'the Clyde,' or the establishment of 'Napier,' of Glasgow, a son or brother of this same Napier, some time ago, came here and inspected every part of the Novelty Works, by invitation and permission of the proprietors. One other fact in favour of the Collins Steamers' machinery may here be given. While it only requires one man to work these engines, two or three are employed to set those of the Cunard steamers in motion. The only similarity between the machinery of the two lines is, that they are both 'side lever engines.'

But here is the letter, and it requires no comment at our hand. We trust *THE BUILDER*, and other papers which inserted the statements of

'Britannicus,' will be candid and honourable enough to insert their refutation."

We cannot afford the space necessary for the insertion of this letter; but in justice we give the pith of it.

"Of our foremen, every man (with one exception) was born in the United States, learned his trade in this country, and whatever they have done, in connection with marine engines, has been at our works. The one exception referred to has been employed at our works for the last nineteen years, and never did any work for marine engines in any other place.

The draughtsmen who made the drawings are our pupils, and acquired all the knowledge and experience they have in connection with steam-engines in our drawing-room. The men who superintended the setting of the engines are also natives of the United States, were once our apprentices, and acquired at our works whatever skill and experience they have.

No man was ever imported from the manufacturers of the Clyde, or from any other quarter, with reference to these engines; and neither in the preparation of the plans, nor in the construction of the work, did we ever receive any assistance, direct or indirect, from any engineer on the banks of the Clyde, or from any other part of Great Britain."

The Americans are, of course, surprised that we should give a place in our columns to "Britannicus's" statement. "Britannicus," on the other hand, is surprised that we should give a place in our columns to American statements. So here we are, taking both parties by "surprise," without intending it; but not in the least surprised ourselves to find that, in endeavouring to give a fair hearing to both America and England on an important question, so that the truth may be ultimately elicited between them, we, for our own part, obtain the approval of neither. That, however, is a matter of small moment to us, if we do elicit the truth, and stir both nations to exertions.

PIPE DRAINS v. BRICK SEWERS.

It is not correct to say that the Board of Health "recommends" main sewers of four inches in diameter in the streets of towns, or the sizes of drains to be so finely calculated by formulae as to receive just the amount of drainage from the houses, and "not even a dew-drop more." Such a recommendation would bear upon the face of it the impress of absurdity, because of impossibility. In the evidence given by Mr. Medworth before the Committee on the supply of water to the metropolis, will be found much upon which the "recommendations" of the Board of Health are based. Amongst other things you will find, that the *smallest house drain from one water closet should not be less than four inches in diameter*, and that other drains should be of proportionate area. It is also recommended that all the rain water falling upon roofs of houses, court-yards, and private premises, should pass into the pipe drains, and that all other rain water should be excluded: with the formula which is also furnished for the flow of sewage through pipes (which formula Mr. Beardmore has adopted in his tables), the sizes of drains, and their rates of inclination may be calculated without any great labour. In all towns with which I am acquainted there is already some system of street drainage, which may be made available for carrying off rain and town waters. These, not being rendered offensive by the admixture of sewage matters, will exercise no deleterious influence upon the health of the neighbourhood. It is to be feared that no scheme for town drainage on the pipe system will be permanently efficient unless rain water falling upon streets and roads be excluded; because the *debris* carried into the sewers may gradually indurate and choke them up. In any case, one great object of the pipe system would be lost in consequence of the immense expense which must necessarily result from making the sewers sufficiently capacious to carry off excessive rain falls.

That the pipe system for the drainage of towns does work well your correspondents, the "Ratepayer," and "B. B." and local boards of health throughout the kingdom may satisfy themselves. Croydon, Rugby, and Richmond

works are in full operation; and they who assert that these works have not been sufficiently tested by time, should apply at the office of the Commissioners of Sewers for information of earlier date. If I am not wrongly informed there are nearly 200 miles of pipe drains now doing their work satisfactorily in the metropolis, considerable lengths of which have been laid down upwards of five years. But it does not need that years should pass away to test the efficiency of the system. The facts now published in connection with Mr. Cuthbert Johnson's edition of the Public Health Act, detailing the performances of the sewers at Croydon, and more than all on inspection of the delivery at the outfall in that town, will not fail to convince any unprejudiced person that a very extensive use of these pipes in drainage works will be both economical and efficient. C. E.

INFORMATION as to size, depth, construction, or mode of laying is not sought: the question is, whether the public money is properly expended in laying down tube sewers. The application of this form of drain for public streets is comparatively recent, and grave doubts are entertained by many whether they may not have to be taken up again, and the expense have to be incurred of laying down one made of bricks or other material.

In this district (Manchester), for the last five years the oval-shaped tubes have been laid down in all newly-paved streets, and the practice is continued as if it was a settled conviction and fixed rule.

To institute an inquiry by means of your pages appears to me to be a fair and legitimate mode, and no professional surveyor need be under any apprehension of injury to himself from the discussion which may arise from it.

Manchester has had the benefit of an early introduction of the tubes, and the saving in cost to the owners of property has been many thousands of pounds. Since they have been in use they have given invariable satisfaction.

MEMBER OF THE SEWERING COMMITTEE.

ARCHITECTURAL AND RAILWAY MATTERS IN IRELAND.

ADDITIONAL museum accommodation is to be immediately erected at the Royal Dublin Society's house. Plans and estimates have been furnished. The society have contributed 1,000l. and the remaining 5,000l. of the intended expenditure to be incurred in executing the necessary works, are being raised by subscription.

A new school-house is to be erected in connection with St. Patrick's Cathedral: a piece of ground at the south close of the deanery has been purchased for the purpose, and the intended building will be erected by subscription.

The directors of the Kilmarnock Junction Railway are progressing with the line after a lengthened suspension of the works. A total alteration in the original plan of the line from Mill-street to Mallow—a distance of 20 miles—has been made, thereby reducing the capital from 375,000l. to 225,000l. A loan of 100,000l. has been granted by the Public Works Loan Commissioners. The cost of constructing the entire line is expected not to exceed 225,000l. About 900 men are engaged on the works in the vicinity of Kerry, which are being constructed by Mr. Dargan. Mr. Wm. R. Le Fanu, engineer.

An extensive building for the scholastic and other purposes of the Catholic brothers is to be erected at Adare, by the Earl of Dunraven. Mr. Hardwick, we believe, is the architect.

The churches of Derryoolen and Lismaska are to be rebuilt.

A new workhouse is to be erected at Ballyvaughan. Mr. Wilkinson, architect.

That portion of the Newry and Enniskillen Railway between Edward-street, in Newry, and the junction with the Dublin and Belfast Junction at Gurah, is to be constructed immediately, and the directors are inviting tenders.

New docks have been for some time in course of construction at Limerick. The large gates of metal were supplied by Messrs. Mallett, of Dublin. Mr. Barry D. Gibbons, engineer to the board of public works, furnished the plans.